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FLETCHER, YODER & VAN SOMEREN P. O. BOX 692289 HOUSTON, TX 77269-2289			FERRIS, DERRICK W	
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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/063,798	Applicant(s) EL-DEMERDASH ET AL.	
	Examiner Derrick W. Ferris	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2002.  
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-84 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-84 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 14 May 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because reference characters for figure 1 are not labeled. In particular, the following reference characters should be labeled: 12, 18, 20, 24, 26, 28, 30, 32, and 34. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: figure 8 for paragraph 0067 should be changed to figure 9 and figure 8 for paragraph 0069 should be changed to figure 10 on page 21 of applicant’s specification.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 2-3, 6-10, 21-23, 36-41, 43, 53-55 are 72-74** are rejected under 35

U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,198,287, 287 B1 to *Heiserholt et al.*

(“*Heiserholt*”).

As to **claim 1**, see e.g., figure 2 where a master node is taught as CAN master 42.

A slave node for each of a plurality of components of the medical the medical imaging system are taught e.g., as nodes 24 and 30. In particular, in view of figure 1, nodes 24 and 30 represent a plurality of components in a HF shielded room thus meeting a reasonable but broad interpretation of the recited claim language. Note that other nodes are further connected on the bus as shown e.g., in figure 1. The uniform communications protocol between the master and each of the slave nodes is the CAN protocol, see e.g., column 3, lines 41- 67.

As to **claim 2**, see e.g., column 3, lines 41- 67 with respect to the CAN protocol.

As to **claim 3**, see e.g., figure 3 where the CAN bus 44 has both a “H” and “L” portion.

As to **claims 6-9**, *Heiserholt* discloses a medical image system and components of a medical image system including image acquisition, image processing, user interaction, and monitoring components, see e.g., column 2, lines 52 to column 3, line 30.

As to **claim 10**, the master node is the apparatus control computer thus comprising control circuitry.

As to **claim 21**, see similar rejection to claim 1.

As to **claim 22**, see similar rejection to claim 2.

As to **claim 23**, see similar rejection to claim 3.

As to **claim 36**, see similar rejection to claim 1.

As to **claim 37**, the apparatus control computer 42 is used to manage the medical imaging system which includes operating the system.

As to **claim 38**, see similar rejection to claim 9.

As to **claim 39**, the medical imaging system is efficiently managed since the CAN protocol is used.

As to **claim 40**, since the CAN protocol is used there is communications compatibility between devices.

As to **claim 41**, see similar rejection to claim 2.

As to **claim 43**, see similar rejection to claim 3.

As to **claim 53**, see similar rejection to claim 1.

As to **claim 54**, see similar rejection to claim 6.

As to **claim 55**, see similar rejection to claim 8.

As to **claim 72**, see similar rejection to claim 1. Examiner notes that the machine-readable code runs on the computer systems as shown in figure 1.

As to **claim 73**, see similar rejection to claim 38.

As to **claim 74**, see similar rejection to claim 2.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 4, 11, 12, 14, 15, 24, 31, 51 and 84** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent No. 5,784,547 A to *Dittmar et al.* ("*Dittmar*").

As such to **claim 4**, *Heiserholt* discloses the CAN protocol but may not specifically disclose a safety loopback communications link.

*Dittmar* teaches the further recited limitation above at column 4, lines 16-30. In particular, *Dittmar* teaches switching over to second bus if a first bus fails thus teaching a reasonable but broad interpretation of a safety loop-back communication.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying fault detection for a CAN protocol.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation

for modifying the reference or to combine the reference teachings would be perform fault detection and correction. In particular, *Dittmar* cures the above-cited deficiency by providing the above motivation found at the abstract.

As such to **claim 11-12 and 14**, *Heiserholt* discloses the CAN protocol but may not specifically disclose fault sensing system to identify component faults at the slave nodes wherein the fault-sensing system has a critical-response time, and comprises a safe mode backup system.

*Dittmar* teaches the further recited limitation above at column 4, lines 16-30. In particular, *Dittmar* teaches switching over to second bus if a first bus fails thus teaching a reasonable but broad interpretation of identifying component faults at slave nodes. In particular, different types of faults are detected such as a cyclical function monitoring thus teaching an message-response system having a critical response time. Specifically, a message report is sent to all nodes once an error is detected. The safe mode backup system is the other bus.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying fault detection for a CAN protocol.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to perform fault detection and correction. In particular, *Dittmar* cures the above-cited deficiency by providing the above motivation found at the abstract.

As such to **claim 15**, *Heiserholt* discloses the CAN protocol but may not specifically disclose a component control system having a timed-component-response system.

*Dittmar* teaches the further recited limitation in the background. In particular, *Dittmar* teaches waiting for an acknowledgment within a maximum time period (time out) thus teaching a reasonable but broad interpretation of a timed-component-response system.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying fault detection for a CAN protocol.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be perform fault detection and correction. In particular, *Dittmar* cures the above-cited deficiency by providing the above motivation found in the background.

As to **claim 24**, see similar rejection to claim 4.

As to **claim 31**, see similar rejection to claim 15.

As to **claim 51**, see e.g., step 3 at e.g., column 2, lines 55-65 which teaches a maximum response time.

As to **claim 84**, see similar rejection to claim 51.



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7. **Claims 4, 11-14, 24, 28, 29, 44, 46, 47, 50, and 79** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* (“*Heiserholt*”) in view of U.S. Patent No. 5,404,465 A to *Novakovich et al.* (“*Novakovich*”).

As such to **claim 4**, *Heiserholt* discloses the CAN protocol but may not specifically disclose a safety loopback communications link.

*Novakovich* teaches the further recited limitation above at figure 3. In particular, *Novakovich* teaches testing a backup bus thus teaching a reasonable but broad interpretation of a safety loopback communications link.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying fault detection for a CAN protocol.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant’s invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be perform fault detection and correction. In particular, *Novakovich* cures the above-cited deficiency by providing the above motivation found at the abstract.

As such to **claim 11-14**, *Heiserholt* discloses the CAN protocol but may not specifically disclose fault sensing system to identify component faults at the slave nodes wherein the fault-sensing system has a critical-response time, periodically monitoring the message and comprises a safe mode backup system.

*Novakovich* teaches the further recited limitation above at figure 1 and the Abstract. In particular, *Dittmar* teaches switching over to second bus if a first bus fails

thus teaching a reasonable but broad interpretation of identifying component faults at slave nodes. In particular, *Novakovich* teaches a fault detection method where periodic Master test packets are sent to each slave and a response is then sent back from each of the slave devices where if one of the responses is not received correctly then a fault is detected, see e.g., the Abstract and figure 1.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying fault detection for a CAN protocol.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to perform fault detection and correction. In particular, *Novakovich* cures the above-cited deficiency by providing the above motivation found at the abstract.

As to **claim 24**, see similar rejection to claim 4.

As to **claim 28**, see similar rejection to claim 13.

As to **claim 29**, see similar rejection to claim 12.

As to **claim 44**, see similar rejection to claim 11 where the event driven message is either the Master or Slave packets.

As to **claim 46**, see similar rejection to claim 11.

As to **claim 47**, see similar rejection to claim 13.

As to **claim 50**, see similar rejection to claim 11.

As to **claim 79**, see similar rejection to claim 47.

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8. **Claims 47, 48, 49, 51, 52, 79-82 and 84** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent No. 6,915,444 B2 to *Vasko et al.* ("*Vasko*").

As to **claim 47**, *Heiserholt* discloses the CAN protocol but may not specifically disclose transmitting a periodic status message.

*Vasko* teaches the further recited limitation above at figures 11 and 17. In particular, note that a safety message is transmitted periodically between a producer 80 (i.e., a master station) and a consumer 82 (i.e., a slave station), thus teaching the above claim limitation. See also, column 14, lines 61-63.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by including a safety protocol.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to perform fault detection and correction. In particular, *Vasko* cures the above-cited deficiency by providing the above motivation found at column 2, lines 31-39. Examiner also notes a reasonable expectation of success since a CAN protocol is supported by both references, see e.g., column 4, line 45 of *Vasko*.

As to **claim 48**, in addition to the reasoning for claim 47, the periodic status message is the safety message, see e.g., figure 11. As such, a periodic timer 86 is set thus further teaching a timed-response request.

As to **claim 49**, if an error is detected such that the consumer (i.e., slave node) does not response to the timed-response request message as requested, then the consumer transitions into a safe state, see e.g., box 134 in figure 18 and column 15, lines 1-11.

As to **claim 51**, the command is the safety message and the acknowledgment is the command verification, see e.g., figure 11.

As to **claim 52**, the maximum response time is the periodic timer 86, see e.g., figure 11.

As to **claim 79**, see similar rejection to claim 47.

As to **claim 80**, see similar rejection to claim 48.

As to **claim 81**, *Vasko* teaches at least using CRC thus meeting the further limitation of an error-handling code, see e.g., column 10, lines 63-67.

As to **claim 82**, see similar rejection to claim 49.

As to **claim 84**, see similar rejection to claim 51.

9. **Claims 5, 25, 42 and 75** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of An introduction to CANOpen to *Farsi et al.* ("*Farsi*").

As such to **claim 5**, *Heiserholt* discloses the CAN protocol but does not specifically teach CAN Open, see e.g., column 3, lines 41- 67.

*Heiserholt* is silent or deficient to the further limitation of the CAN Open protocol.

*Farsi* teaches the further recited limitation above at e.g., left-hand column on page 161.

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The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying that the CAN protocol is the CAN Open protocol.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to make it possible for devices of different types and markings to be integrated together and to communicate with each other. In particular, *Farsi* cures the above-cited deficiency by providing a motivation found at e.g., left-hand column on page 161, second full paragraph.

As to **claim 25**, see similar rejection to claim 5.

As to **claim 42**, see similar rejection to claim 5.

As to **claim 75**, see similar rejection to claim 5.

10. **Claims 16-19, 26-27, 30, 32-34, 44, 45, 50, 76, 77 and 83** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287, 287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent No. 6,907,485 B2 A to *White, III et al.* ("*White*").

As such to **claim 16**, *Heiserholt* discloses the CAN protocol but may not specifically teach at least one of the slave nodes comprising an emergency status messaging module.

*White* teaches the further recited limitation above at the abstract with respect to the slave nodes sending a state change signal.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying an emergency status messaging module.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to monitor the state of a device. In particular, *White* cures the above-cited deficiency by providing the above motivation found at the abstract.

As such to **claims 17-18**, *Heiserholt* discloses the CAN protocol but may not specifically teach an asynchronous and synchronous module.

*White* teaches the further recited limitation above at the abstract with respect to sending a state change signal.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying an asynchronous and synchronous module.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to monitor the state of a device. In particular, *White* cures the above-cited deficiency by providing the above motivation found at the abstract.

As such to **claims 19**, *Heiserholt* discloses the CAN protocol but may not specifically teach wherein at least one of the slave nodes comprises a fault sensing system to identify component faults at the slave node.

*White* teaches the further recited limitation above at the abstract with respect to collecting state signals from the I/O modules (i.e., slave modules) to response to a change (i.e., failure) at the I/O module, see e.g., the Abstract.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying a fault sensing system to identify component faults at the slave node.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to monitor the state of an I/O or slave device. In particular, *White* cures the above-cited deficiency by providing the above motivation found at the abstract.

As to **claim 26**, see similar rejection to claim 16.

As to **claim 27**, see similar rejection to claim 16.

As to **claim 30**, see similar rejection to claim 19.

As to **claim 32**, see similar rejection to claim 16.

As to **claim 33**, see similar rejection to claim 17.

As to **claim 34**, see similar rejection to claim 18.

As to **claim 44**, see similar rejection to claim 26.

As to **claim 45**, see similar rejection to claim 27.

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As to **claim 50**, see similar rejection to claim 19.

As to **claim 76**, see similar rejection to claim 26.

As to **claim 77**, see similar rejection to claim 27.

As to **claim 83**, see similar rejection to claim 50.

11. **Claims 20 and 35** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of Bosch Controller Area Network Version 2.0 Protocol Standard to *Motorola*.

As such to **claim 20**, *Heiserholt* discloses the CAN protocol but does not specifically teach using a CRC to ensure data integrity on the network.

*Heiserholt* is silent or deficient to using a CRC to ensure data integrity.

*Motorola* teaches the further recited limitation above at e.g., section 9.8.1 on page 9-4.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying that the CAN protocol uses CRC for error detection.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be perform error detection. In particular, *Motorola* cures the above-cited deficiency by providing a motivation found at e.g., section 9.8.1 on page 9-4.

As to **claim 35**, see similar rejection to claim 20.



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12. **Claims 56-60 and 62** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent Application 2002/0081039 to *Funahashi et al.* ("*Funahashi*").

As such to **claim 56**, see e.g., figure 2 of *Heiserholt* where a master node is taught as CAN master 42. A slave node for each of a plurality of components of the medical the medical imaging system are taught e.g., as nodes 24 and 30. In particular, in view of figure 1, nodes 24 and 30 represent a plurality of components in a HF shielded room. Note that other nodes are further connected on the bus as shown e.g., in figure 1. The uniform commutations protocol between the master and each of the slave nodes is the CAN protocol, see e.g., column 3, lines 41- 67.

*Heiserholt* is silent or deficient to generating the medical diagnostic image.

*Funahashi* teaches the further recited limitation above at e.g., paragraph 0072 on page 5.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying that one of the devices e.g., in figure 1 generates an image such that the imaging computer 46 and further disclosed at column 4, lines 1-30 can be used to display a medical diagnostic image.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to display an image of the MRI.

As to **claim 57**, *Heiserholt* discloses a medical image system and components of a medical image system including image acquisition, image processing, user interaction, and monitoring components, see e.g., column 2, lines 52 to column 3, line 30.

As to **claim 58**, the medical imaging system is efficiently managed since the CAN protocol is used as taught by *Heiserholt* at e.g., column 3, lines 40-67.

As to **claim 59**, communications capability is taught since the CAN protocol is used as taught by *Heiserholt* at e.g., column 3, lines 40-67.

As to **claim 60**, communications capability is taught since the CAN protocol is used as taught by *Heiserholt* at e.g., column 3, lines 40-67.

As to **claim 62**, see e.g., figure 3 of *Heiserholt* where the CAN bus 44 has both a “H” and “L” portion.

13. **Claim 61** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* (“*Heiserholt*”) in view of U.S. Patent Application 2002/0081039 to *Funahashi et al.* (“*Funahashi*”) and in further view of An introduction to CANopen to *Farsi et al.* (“*Farsi*”).

As such to **claim 61**, *Heiserholt* discloses the CAN protocol but does not specifically teach CAN Open, see e.g., column 3, lines 41- 67.

*Heiserholt* and *Funahashi* are silent or deficient to the further limitation of the CAN Open protocol.

*Farsi* teaches the further recited limitation above at e.g., left-hand column on page 161.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Heiserholt* by clarifying that the CAN protocol is the CAN Open protocol.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to make it possible for devices of different types and markings to be integrated together and to communicate with each other. In particular, *Farsi* cures the above-cited deficiency by providing a motivation found at e.g., left-hand column on page 161, second full paragraph.

14. **Claims 63 and 64** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent Application 2002/0081039 to *Funahashi et al.* ("*Funahashi*") and in further view of U.S. Patent No. 6,907,485 B2 A to *White, III et al.* ("*White*").

As to **claim 63**, see similar rejection to claim 16, 26 or 44.

As to **claim 64**, see similar rejection to claim 27 or 45.

15. **Claims 66 and 69** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent Application 2002/0081039 to *Funahashi et al.* ("*Funahashi*") and in further view U.S. Patent No. 5,404,465 A to *Novakovich et al.* ("*Novakovich*").

As to **claim 66**, see similar rejection to claim 47.

As to **claim 69**, see similar rejection to claim 50.

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16. **Claim 78** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") and U.S. Patent No. 6,907,485 B2 A to *White, III et al.* ("*White*") and in further view U.S. Patent No. 5,404,465 A to *Novakovich et al.* ("*Novakovich*").

As to **claim 78**, see similar rejection to claim 46.

17. **Claim 65** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent Application 2002/0081039 to *Funahashi et al.* ("*Funahashi*") and U.S. Patent No. 6,907,485 B2 A to *White, III et al.* ("*White*") and in further view U.S. Patent No. 5,404,465 A to *Novakovich et al.* ("*Novakovich*").

As to **claim 65**, see similar rejection to claim 46.

18. **Claims 66, 67, 68, 70, and 71** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent Application 2002/0081039 to *Funahashi et al.* ("*Funahashi*") and in further view U.S. Patent No. 6,915,444 B2 to *Vasko et al.* ("*Vasko*").

As to **claim 66**, see similar rejection to claim 47.

As to **claim 67**, see similar rejection to claim 48.

As to **claim 68**, see similar rejection to claim 49.

As to **claim 70**, see similar rejection to claim 51.

As to **claim 71**, see similar rejection to claim 52.

19. **Claim 70** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,198,287,287 B1 to *Heiserholt et al.* ("*Heiserholt*") in view of U.S. Patent Application

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2002/0081039 to *Funahashi et al.* ("*Funahashi*") and in further view U.S. Patent No. 5,784,547  
A to *Dittmar et al.* ("*Dittmar*").

As to **claim 70**, see similar rejection to claim 51.

***Conclusion***

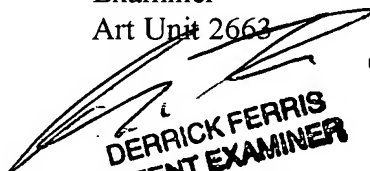
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DWF

Derrick W. Ferris  
Examiner  
Art Unit 2663

 1/23/06  
**DERRICK FERRIS  
PATENT EXAMINER**